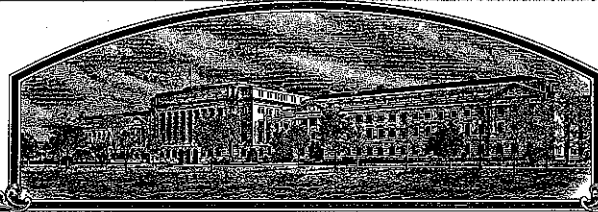


No.

200300308



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Pure Seed Testing, Inc. and Rutgers, the
State University of New Jersey

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

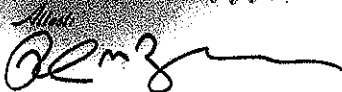
AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

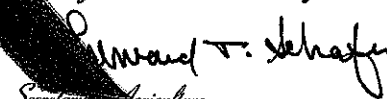
NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC DEPOSIT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE APPLICANT(S) SHALL GUARANTEE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED IN THE PLANT VARIETY PROTECTION ACT. (34 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

BLUEGRASS, KENTUCKY

'Royce'

In Testimony Whereof, I have hereunto set my hand
and caused the seal of the Plant Variety
Protection Office to be affixed at the City of
Washington, D.C. this twentieth day of August,
the year two thousand and eight.

Attest:

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service


Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions and information collection burden statement on reverse)

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER Pure Seed Testing, Inc. and Rutgers, The State University of New Jersey (BT: 7/9/2008)		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME A98-304	3. VARIETY NAME Royce
4. ADDRESS (Street and No., or RFD No., City, State, and ZIP Code, and Country) P.O. Box 449 and New Jersey Agricultural Exp. Station at Rutgers University New Brunswick, NJ 08901-8525		5. TELEPHONE (include area code) (503) 651-2130	FOR OFFICIAL USE ONLY PVPO NUMBER #200300308
		6. FAX (include area code) (503) 263-0703	FILING DATE 8/14/2003
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) Corporation	8. IF INCORPORATED, GIVE STATE OF INCORPORATION Oregon	9. DATE OF INCORPORATION 1975	

10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) Crystal Rose-Fricker Pure Seed Testing, Inc. P.O. Box 449 Hubbard, OR 97032		FILING AND EXAMINATION FEES: \$3,652.00 DATE 8/14/2003 CERTIFICATION FEE: \$768.00 DATE 8/18/2008
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11. TELEPHONE (Include area code) (503) 651-2130	12. FAX (Include area code) (503) 263-0703	13. E-MAIL crystal@turf-seed.com	14. CROP KIND (Common Name) Kentucky bluegrass
--	--	--	--

18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)		19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? See Section 83(a) of the Plant Variety Protection Act	
a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input checked="" type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) g. <input checked="" type="checkbox"/> Filing and Examination fee (\$2,705), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)		<input type="checkbox"/> YES (If "yes," answer items 20 and 21 below) <input checked="" type="checkbox"/> NO (If "no," go to item 22) 20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, WHICH CLASSES? <input checked="" type="checkbox"/> FOUNDATION <input checked="" type="checkbox"/> REGISTERED <input checked="" type="checkbox"/> CERTIFIED 21. DOES THE OWNER SPECIFY THAT THE CLASSES BE LIMITED AS TO NUMBER OF GENERATIONS? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, SPECIFY THE NUMBER 1, 2, 3, etc. <input checked="" type="checkbox"/> FOUNDATION <input checked="" type="checkbox"/> REGISTERED <input checked="" type="checkbox"/> CERTIFIED (If additional explanation is necessary, please use the space indicated on the reverse.)	
22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U.S. OR OTHER COUNTRIES? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)		23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)	

24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue will be deposited in a public repository and maintained for the duration of the certificate.

The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF OWNER 		SIGNATURE OF OWNER 	
NAME (Please print or type) Crystal Rose-Fricker		NAME (Please print or type) Dr. Keith Cooper	
CAPACITY OR TITLE President	DATE 9/30/03	CAPACITY OR TITLE Dean of Research	DATE 9/29/03

INSTRUCTIONS

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (in the sense that it will reproduce an entire plant) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$2,705 (\$320 filing fee and \$2,385 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$320 for issuance of the Certificate.

Plant Variety Protection Office

Telephone: (301) 504-5518

FAX: (301) 504-5291

Homepage: <http://www.ams.usda.gov/science/pvp.htm>

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ITEM

- 18a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
(2) the details of subsequent stages of selection and multiplication;
(3) evidence of uniformity and stability; and
(4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified.
- 18b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
(1) identify these varieties and state all differences objectively;
(2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences;
(3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 18d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
19. If "Yes" is specified (*seed of this variety be sold by variety name only, as a class of certified seed*), the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See Regulations and Rules of Practice, Section 97.103).
21. See Section 83 of the Act for the Contents and Term of Plant Variety Protection.
22. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
23. See Section 5.5 of the Act for instructions on claiming the benefit of an earlier filing date.
21. **CONTINUED FROM FRONT** (Please provide a statement as to the limitation and sequence of generations that may be certified.)

22. **CONTINUED FROM FRONT** (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

The first date of sale of Royce was 23 August 2002.

23. **CONTINUED FROM FRONT** (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the applicant/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of Regulations and Rules of Practice.)

To avoid conflict with other variety names in use, the applicant must check the variety names proposed by contacting: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center—East, Beltsville, MD 20705. Telephone: (301) 504-8089.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this collection of information is (0581-0055). The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs). Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact the USDA's TARGET Center at 202-720-2600 (voice and TDD). To file a complaint, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

S&T-470 (2-99) designed by the Plant Variety Protection Office with WordPerfect 6.0a. Replaces STD-470 (6-98) which is obsolete.

Exhibit A - Revised

Origin and Breeding History of 'Royce' Kentucky Bluegrass

'Royce' (A98-304) Kentucky bluegrass originated as a single apomictic plant selected from open-pollinated progeny of C-74. C-74 is a vigorous, apomictic plant that originated from a plant collected from an old turf area in Exeter, RI in 1987 and is similar in appearance and performance to 'Unique'.

During the late winter of 1995-96, a C-74 plant was open-pollinated in a greenhouse located on the Cook College campus of Rutgers University by typical plants of 'Monopoly' and 'North Star', one plant similar to 'Voyager' and one plant derived from 'Glade'. Environmental conditions prior to and during pollination were modified to increase sexual reproduction of facultatively apomictic Kentucky bluegrasses. Seed from the C-74 female parent was harvested during the spring of 1996. Seedlings were grown in the greenhouse during the winter of 1996-97 and hybrids were identified phenotypically.

Selected hybrid plants that were less compact than the maternal C-74, had wider leaf blades, more vigor and absent of disease were transplanted into a spaced-plant nursery at the Rutgers University Plant Science Research and Extension Farm at Adelphia, NJ during the spring of 1997. During the following summer, seed was harvested from an attractive F₁ hybrid plant designated 97-1492-8. This was a medium-maturing, average-yielding plant compared to other Kentucky bluegrasses harvested from that nursery. During the fall of 1998, seed from plant 97-1492-8 was planted in a turf plot designated A98-304 at Adelphia.

Plants were dug from plot A98-304 during the late summer of 1999 and used to establish a 1000-plant nursery near Silverton, OR. Approximately 2-3% of the plants in this nursery were identified as off-types and removed during the spring of 2000. Breeder seed of Royce was harvested from the remaining plants during the summer of 2000. Based on seedling observations, Royce has an apomixis level of 92%.

Royce has shown stability and uniformity multiplied for six years from Breeder seed through the Certified seed generation. The New Jersey Agricultural Experiment Station maintains Breeder seed. Seed propagation of Royce is limited to three generations of increase from Breeder seed: one each of Foundation, Registered and Certified. Off-types are removed from seed stock fields, but will continue to

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be expressed in each generation due to the facultative apomictic nature of Kentucky bluegrass. Many of these off-types are weak and will not survive in a seed production field. Less than 10% of the population has been observed as off-types in the production fields of Royce. Royce and the parents of Royce have produced turf and seed production fields of good quality, acceptable uniformity and good stability. No variants have been observed in the replication or multiplication of Royce Kentucky bluegrass.

Exhibit B**Statement of Distinctness for 'Royce' Kentucky Bluegrass**

'Royce' is most similar to 'Unique' Kentucky bluegrass. They differ in the following characteristics:

1. Royce has a mean mature plant height at least 4.4 cm taller than Unique (Tables 1-3).
2. Royce has a mean flag leaf height at least 4.2 cm taller than Unique (Tables 2, 3).
3. Royce has a mean tiller leaf sheath length at least 7 mm longer than Unique (Tables 1, 2).

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this collection of information is (0581-0055). The time required to complete this information collection is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact the USDA's TARGET Center at 202-720-2600 (voice and TDD). To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

**U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY PROGRAM
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705**

**EXHIBIT C
(BLUEGRASS)**

**OBJECTIVE DESCRIPTION OF VARIETY
BLUEGRASS
(*Poa* spp.)**

NAME OF APPLICANT(S) Pure Seed Testing, Inc. and Rutgers, The State University of New Jersey	TEMPORARY DESIGNATION A98-304	VARIETY NAME Royce
ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code) P.O. Box 449, Hubbard, OR 97032		FOR OFFICIAL USE ONLY PVPO NUMBER #200300308

Select the number which characterizes the variety in the features described below. For measured characteristics use leading zeros as necessary in order to fill all blanks (e.g. 089). Those characteristics marked with a star * are preferred to be recorded. Any others should be recorded to help establish novelty or uniqueness. Characteristics described, including numerical measurements, should represent those that are typical for the variety. Measured data should be for SPACED PLANTS. Royal Horticultural Society or any recognized color fan may be used to determine plant colors; designate the system used:

Describe location of test area, conditions, and number of Plants used: Pure Seed Testing Research Farm near Hubbard, OR. Sixty plants measured from seed yield trials planted in a randomized complete block with three replications of 20 plants each.

1. SPECIES:

1 = *Poa compressa* 2 = *P. pratensis* 3 = *P. trivialis* 4 = Others (Please Specify):

Chromosome Number

2. ADAPTATION: (0 = Not Tested, 1 = Not Adapted, 2 = Adapted, 3 = Well Adapted)

Northeast Transitional Zone Southeast North Central

Pacific N.W. Intermountain Southwest (CA, AZ) Other (Please Specify):

3. MATURITY (At first anthesis): Give test area near Hubbard, Oregon.

* 1 = Very Early 2 = Early (Delta, Mystic) 3 = Medium Early (Fylking, Nugget)

4 = Medium late (Newport, Adelphi, Aquila) 5 = Late (Merion, Baron, Enmundi)

6 = Very Late (Pacific)

Date of First Anthesis: 30 May 03

<input type="text"/> <input type="text"/>	Number of days earlier than	* <input type="text"/>	}	1 = Nugget	2 = Fylking	3 = Delta
	Maturity same as	* <input type="text" value="6"/>		4 = Merion	5 = Newport	6 = Baron
<input type="text"/> <input type="text"/>	Number of days later than	* <input type="text"/>		7 = Mystic	8 = Sabre	9 = Reubens

4. PLANT HEIGHT (At maturity-Average of longest shoot of 10 plants from soil surface to top of panicle): *Test Area* **Hubbard, OR**
 ★ 1 = Short 2 = Medium short (Baron, Fylking, Mystic)
 3 = Medium tall (Merion, Adelphi) 4 = Tall (delta) 5 = Very tall

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★ cm Height

cm Shorter than

Height same as

cm Taller than

★
 ★
 ★

1 = Nugget

2 = Fylking

3 = Delta

4 = Merion

5 = Newport

6 = Baron

7 = Mystic

8 = Sabre

9 = Reubens

5. GROWTH HABIT:

★ Habit: 1 = Prostrate (Nugget) 2 = Semiprostrate (Merion) 3 = Erect (Delta)

cm Amount of spread by rhizomes in 1 year (give test area: _____)

6. LEAF BLADE:

★ Green color: 1 = Light green (Mystic) 2 = Medium green (Fylking, Bonnieblue)
 3 = Moderately dk. green (Merion, Adelphi) 4 = Very dk. green (Nugget, Glade, Enmundi)

★ Bluegreen color: 1 = Not bluegreen (Mystic, Touchdown, Parade) 2 = Moderately bluegreen (Merion, A-34)
 3 = Bluegreen (Nugget, Enmundi, Adelphi) 4 = Strongly bluegreen (Majestic)

Winter color: 1 = Light green 2 = Dark green 3 = Light purple
 4 = Dark purple 5 = Not purple 6 = Not green or purple

★ Hairs upper side: 1 = Absent (Nugget) 2 = Sparse (Merion) 3 = Dense (Park)

Hairs lower side: 1 = Absent (Fylking, Merion) 2 = Sparse 3 = Dense (Nugget)

Luster upper side: 1 = Shiny (Eclipse, Enmundi) 2 = Dull (Aquila, Parade)

Luster lower side: 1 = Shiny (Mystic, Enmundi) 2 = Dull (Barbie, Eclipse)

★ Margin hairs 1 = Absent (Delta) 2 = Present (Fylking, Merion)
 (Fringe on Margin or Base):

★ Width: 1 = Very fine (Mystic) 2 = Fine (Nugget) 3 = Medium (Merion, Fylking)
 4 = Broad (Adelphi, Baron) 5 = Very broad (Monopoly)

mm Width (tiller leaf)

mm Narrower than

Width same as

mm Wider than

★
 ★
 ★

1 = Nugget

2 = Fylking

3 = Delta

4 = Merion

5 = Newport

6 = Baron

7 = Mystic

8 = Sabre

9 = Reubens

mm Length (tiller leaf)

mm Shorter than

Length same as

mm Longer than

★
 ★
 ★

1 = Nugget

2 = Fylking

3 = Delta

4 = Merion

5 = Newport

6 = Baron

7 = Mystic

8 = Sabre

9 = Reubens

2 Position of flag leaf (angle to stem): 1 = Appressed 2 = Open angle, yet stiff 3 = Nodding

7. LEAF SHEATH:

#200300308

4 5 cm sheath length

- (BT: 5/16/08) ★ 1 Seedling Color (base of sheath): 1 = Green (Nugget, Merion) 2 = Red (Delta)
- ★ 1 Hairs on Margin: 1 = Absent (Fylking) 2 = Present (Nugget)
- ★ 1 Margin Roughness (to touch): 1 = Smooth (Delta) 2 = Rough (Sabre)
- 1 Hairs on Surface: 1 = Absent () 2 = Present (Nugget)
- 1 Surface Roughness (to touch): 1 = Smooth (Fylking) 2 = Rough (Ram I)
- 2 Hairs on both sides just beneath leaf blade (under collar): 1 = Absent (Merion) 2 = Present (Nugget)
- ★ 1 Hairs on ligule: 1 = Absent (Fylking) 2 = Short (Baron) 3 = Long (Nugget)
- 2 Glaucosity: 1 = Absent (Mystic, Enmundi) 2 = Present (Birka)
- 2 Keel: 1 = Absent (Ram I) 2 = Present (Adelphi)

8. PANICLE (Mature Plant):

0 8 8 mm Length (Lowest branch whorl to top, for 10 plants) Test Area:

0 2 1 mm Shorter than } 1 = Nugget 2 = Fylking 3 = Delta

Panicle same as } 4 = Merion 5 = Newport 6 = Baron

mm Longer than } 7 = Mystic 8 = Sabre 9 = Reubens

- (BT: 5/16/08) ★ 5 Color (at 50% flowering): 1 = Not red (Fylking) 2 = Red (Nugget)
- 2 Shape of Rachis (opposite lower side branches): 1 = No bend (Nugget) 2 = Bend (Merion)
- ★ 2 Collar: 1 = Opened (Nugget) 2 = Closed (Merion)
- ★ 2 Branches Attitude (Lowest whorl): 1 = Drooping (America, Prato) 2 = Horizontal (Merion) 3 = Ascending (Tundra)
- 4 Number of main branches in lowest whorl:
- * 1 ★ 1 Panicle habit: 1 = Nodding (Newport) 2 = Upright (Nugget)
- ★ 1 Panicle type: 1 = Open 2 = Intermediate 3 = Compact
- 1 Anther color (anthesis): 1 = Purple 2 = Yellow 3 = Brown

9. LEMMA

- ★ 3 Keel 1 = Glabrous 2 = Slightly pubescent 3 = Pubescent
- ★ 3 Marginal Nerves
- 1 Intermediate Nerves: 1 = Distinct 2 = Obscure
- 3 Basal Webbing: 1 = Absent 2 = Scant (Baron) 3 = Copious (Merion)

10. SEED: (Floret-not dehulled)

★ Apomixis Percentage: 1 = more than 95 2 = 85 to 95 3 = less than 85

Phenol Reaction: 1 = none-lemma removed (Merion) 2 = Beige (Cougar) 3 = Brown (Windsor)
 4 = Black (Mystic -2hrs) 5 = Black (-24hrs)

mm Width (average of 10) mm Length

Milligrams per 10,000 seed

Milligrams less than

Weight same as

Milligrams more than

★
 ★
 ★

1 = Nugget

2 = Fylking

3 = Delta

4 = Merion

5 = Newport

6 = Baron

7 = Mystic

8 = Sabre

9 = Reubens

Weight Class (g per 10,000 seed): 1 = Light (< 3g Sydsport, Merion)
 2 = Medium (3g - 4g Adelphi, Parade)
 3 = Heavy (> 4g Fylking, Nugget)

11. ENVIRONMENTAL RESISTANCE:

(0 = Not Tested; 1 = Very Susceptible, 2 = Moderately Susceptible, 3 = Moderately Resistant, 4 = Highly Resistant)

★ Cool Temperature (Winter color) Cold (injury) Heat Drought

Shade Low Fertility Acid Soil (< pH 5.5) Alkalinity (pH > 7.5)

Salinity Soil Compaction Poor Drainage Air Pollution

Other (Please Specify):

12. DISEASE RESISTANCE:

(0 = Not Tested; 1 = Very Susceptible, 2 = Moderately Susceptible, 3 = Moderately Resistant, 4 = Highly Resistant)

<input type="text" value="3"/> Melting-Out <i>Drechslera poae</i> (<i>Helminthosporium vagans</i>)	<input type="text" value="0"/> Sclerotinia <i>S. borealis</i>
<input type="text" value="3"/> Helminthosporium Leaf Spot <i>Bipolaris sorokiniana</i>	<input type="text" value="3"/> Stem Rust <i>Puccinia graminis</i>
<input type="text" value="3"/> Brown Patch <i>Rhizoctonia solani</i>	<input type="text" value="3"/> Stripe Rust <i>P. striiformis</i>
<input type="text" value="4"/> Powdery Mildew <i>Erysiphe graminis</i>	<input type="text" value="3"/> Leaf Rust <i>P. poae-nemorale</i>
<input type="text" value="3"/> Stripe Smut <i>Ustilago striiformis</i>	<input type="text" value="0"/> Orange Stripe Rust <i>P. poarum</i>
<input type="text" value="0"/> Flag Smut <i>Urocystis agropyri</i>	<input type="text" value="2"/> Pythium Blight <i>Pythium</i> spp.
<input type="text" value="3"/> Pink Snow Mold <i>Fusarium nivale</i>	<input type="text" value="3"/> Red Thread <i>Corticium fujiciforme</i>
<input type="text" value="3"/> Ergot <i>Claviceps purpurea</i>	<input type="text"/> Other (Please Specify):
<input type="text" value="3"/> Fusarium Blight <i>Fusarium roseum</i> , <i>F. tricinctum</i>	<input type="text"/> Other (Please Specify):
<input type="text" value="0"/> Typhula Blight <i>Typhula</i> spp.	
<input type="text" value="4"/> Dollar Spot <i>Sclerotinia homoeocarpa</i>	

13. INSECTS, NEMATODES, RESISTANCE:

(0 = Not Tested; 1 = Very Susceptible, 2 = Moderately Susceptible, 3 = Moderately Resistant, 4 = Highly Resistant)

- Chinch Bug *Blissus* spp. (give species:)
- Sod Webworm *Crambus* spp. (give species:)
- Bluegrass Billbug *Sphenophorus parvulus*
- White Grub: Japanese Beetle, Chafer (give species)
- Greenbug Aphid *Schizaphis graminum*
- Other (Please Specify):
- Other (Please Specify):

14. Give variety or varieties that most closely resemble the application variety. For the following characteristics indicate Degree of Resemblance by placing in the column marked D.R., one of the following numbers: 1 = Application variety is less than comparison variety; 2 = Same as; 3 = More than, better, greater, darker, more disease resistant, etc.

CHARACTER	VARIETY	D.R.	CHARACTER	VARIETY	D.R.
Maturity-heading	Unique	2	Leaf Width	Unique	2
Height	Unique	3	Leaf Color Spring	Unique	2
Seed Size	Unique	2	Leaf Color Summer	Unique	2
Seed Weight	Unique	2	Leaf Color Winter	Unique	2
Cold Injury	Unique	2	Drought	Unique	2
Heat	Unique	2	Disease**	Unique	2
Shade	Unique	2			

**Specify each disease evaluated.

15. ADDITIONAL DESCRIPTION

Describe all characteristics and conditions that cannot be adequately described in this form in Exhibit D.

Exhibit D**Additional Description of 'Royce' Kentucky Bluegrass**

1. Royce has shown good turf quality in trials throughout the U.S. (Tables 5-7).
2. Royce has shown moderate leaf spot resistance (Tables 6, 8).
3. Royce has shown high dollar spot resistance (Tables 9, 10).
4. Royce has shown good turf quality in shade (Tables 11, 12).

Table 1. 2003 mean morphological measurements for entries in a Kentucky bluegrass seed yield trial seeded fall of 2002 near Hubbard, OR.

Entry	Plant Height (cm)	Flag Leaf Sheath Length (cm)	Tiller Leaf Sheath Length (cm)	Panicle Length (cm)	Flag Leaf to Panicle Top (cm)	Branches/ Lowest Whorl (#)	Tiller Leaf Length (cm)	Tiller Leaf Width (mm)	Flag Leaf Length (cm)	Flag Leaf Width (mm)	Tiller Count (#/100 cm ²)
Nugget	60.1	11.1	5.8	10.9	26.8	4.1	10.5	3.2	6.9	3.1	24.4
Royce	54.4	9.3	4.5	8.8	27.8	4.0	8.2	2.3	5.5	2.3	53.4
Unique	50.0	8.9	3.8	8.7	27.0	4.1	7.8	2.8	4.6	2.5	54.8
LSD (0.05)	2.4	0.7	0.7	0.5	1.7	0.3	0.7	0.3	0.5	0.3	11.2

Table 2. 2002 mean morphological measurements for entries in a Kentucky bluegrass seed yield trial seeded fall of 2000 near Hubbard, OR.

Entry	Plant Height (cm)	Flag Leaf Height (cm)	Flag Leaf Sheath Length (cm)	Tiller Leaf Sheath Length (cm)	Panicle Length (cm)	Flag Leaf to Panicle Top (cm)	Branches/ Lowest Whorl (#)	Tiller Leaf Length (cm)	Tiller Leaf Width (mm)	Flag Leaf Length (cm)	Flag Leaf Width (mm)	Tiller Count (#/100 cm ²)
Kenblue	82.0	41.2	13.7	10.1	10.6	39.9	4.8	10.6	2.5	6.3	2.5	50.2
Royce	62.9	29.3	8.8	6.4	7.9	29.3	3.7	6.8	2.9	4.2	2.7	82.6
Baron	58.5	25.8	8.9	6.7	7.3	27.4	4.2	4.8	2.9	3.4	2.5	65.3
Unique	57.0	23.4	8.5	5.2	8.1	30.6	3.5	5.6	3.1	4.0	2.7	70.1
LSD (0.05)	2.4	2.0	1.1	0.6	0.8	1.6	0.3	0.6	0.3	0.4	0.3	17.6

Table 3. 2003 mean morphological measurements for entries in a Kentucky bluegrass seed yield trial seeded fall of 2000 near Hubbard, OR.

Entry	Plant Height (cm)	Flag Leaf Height (cm)
Royce	44.8	18.0
Unique	37.7	13.8
LSD (0.05)	2.6	1.6

Table 4. Mean initial heading dates for entries in a Kentucky bluegrass seed yield trial seeded fall of 2000 near Hubbard, OR.

Entry	2001	2002
Impact	12 May	15 May
Royce	08 May	02 May
Unique	05 May	02 May
Baron	02 May	30 April
Kenblue	29 March	28 March
LSD (0.05)	7 days	4 days

Table 5. 2002 mean turf quality ratings for entries in Kentucky bluegrass national turf trials seeded fall of 2000 at 15 US locations maintained using "Schedule B".

Entry	IA1	IL2	KY1	MN1	MO1	NC1	NE2	NJ2	OK1	PA1	RI1	VA1	WA1	WA3	WY1	Mean
Everglade	5.9	6.8	7.9	6.0	5.6	5.7	6.3	6.1	6.7	7.8	7.7	5.5	7.1	4.9	5.8	6.4
Midnight	6.0	6.2	6.4	5.9	5.4	6.0	5.8	6.3	6.8	6.7	7.1	3.9	7.0	4.6	5.7	6.0
Royce	5.9	6.2	6.5	5.8	4.9	5.1	6.0	4.9	6.8	8.2	7.8	4.9	5.9	3.9	5.0	5.8
Unique	6.0	5.7	7.0	5.7	4.8	4.8	5.8	5.1	6.5	7.3	7.3	4.8	6.0	3.4	5.3	5.7
Baron	6.0	4.9	5.5	5.7	4.7	4.0	5.5	4.8	5.3	6.3	7.1	4.0	5.6	3.5	5.5	5.2
Kenblue	5.4	5.8	5.0	5.6	4.2	3.4	4.6	3.4	6.0	4.9	7.2	3.7	3.8	2.6	4.7	4.7
GO-9LM9	5.2	3.0	3.4	5.4	3.8	3.8	5.0	2.9	4.4	4.0	6.8	3.1	4.3	1.6	5.0	4.1
LSD (0.05)	1.1	0.9	1.4	0.4	0.8	0.9	1.2	0.8	0.9	1.8	0.8	1.1	0.8	0.8	1.3	0.3

Table 6. Mean leaf spot, winter color and turf quality ratings for entries in a Kentucky bluegrass turf trial seeded fall of 2000 near Hubbard, OR.

Entry	Leaf Spot 31 Jan 01	Winter Color			Turf Quality		
		31 Jan 01	22 Jan 02	Mean	2001	2002	Mean
North Star	4.7 ¹	4.3 ²	5.7	5.0	6.3 ³	5.9	6.1
Royce	5.3	6.0	3.3	4.7	5.8	5.6	5.7
Baron	4.7	5.7	3.7	4.7	5.3	5.5	5.4
Midnight	4.3	4.3	6.0	5.2	5.4	5.4	5.4
Unique	5.7	6.7	3.7	5.2	5.5	5.3	5.4
Kenblue	2.0	2.3	3.0	2.7	3.0	3.1	3.0
LSD (0.05)	1.6	1.0	1.0	0.8	0.7	0.8	0.6

¹9 = no disease; ²9 = dark green; ³9 = ideal

Table 7. Mean winter color and turf quality ratings for entries in a Kentucky bluegrass turf trial seeded fall of 2000 near Hubbard, OR and maintained at 0.5".

Entry	Winter Color 12 Feb 02	Turf Quality		
		2001	2002	Mean
North Star	5.0 ¹	6.6 ²	5.9	6.2
Unique	4.3	5.6	4.7	5.2
Royce	4.7	4.9	5.3	5.1
Midnight	4.0	5.1	5.0	5.0
Baron	3.0	4.3	4.5	4.4
Kenblue	2.7	2.4	2.6	2.5
Jewel	2.7	2.1	2.6	2.3
LSD (0.05)	1.1	0.6	0.7	0.5

¹9 = dark green; ²9 = ideal

Table 8. 2002 mean leaf spot ratings for entries in Kentucky bluegrass national turf trials seeded fall of 2000 at 4 US locations.

Entry	IL2	MD1	ME1	PA1	Mean
Blue Ridge	7.7 ¹	9.0	8.7	9.0	8.6
Midnight	6.3	9.0	8.7	9.0	8.3
Royce	5.3	9.0	8.3	8.0	7.7
Baron	5.3	8.7	7.0	8.3	7.3
Unique	5.3	9.0	8.3	9.0	7.9
Kenblue	3.7	2.3	3.7	2.3	3.0
LSD (0.05)	1.5	0.7	1.6	1.1	0.6

¹9 = no disease

Table 9. 2001 mean dollar spot ratings for entries in a Kentucky bluegrass national turf trial seeded fall of 2000 at University Park, PA.

Entry	Mean
Royce	9.0¹
Unique	8.7
Kenblue	6.7
Midnight	5.7
Baron	5.3
Julia	5.0
LSD (0.05)	2.7

¹9 = no disease

Table 10. 2002 mean dollar spot ratings for entries in Kentucky bluegrass national turf trials seeded fall of 2000 at Kingston, RI and Madison, WI.

Entry	RI1	WI1	Mean
Royce	8.7¹	9.0	8.8
Unique	7.3	9.0	8.2
Kenblue	6.7	9.0	7.8
Baron	7.0	8.3	7.7
Midnight	6.7	8.7	7.7
Barisis	4.0	7.3	5.7
LSD (0.05)	1.9	1.0	1.1

¹9 = no disease

Table 11. 2001 mean turf quality ratings for entries in Kentucky bluegrass national turf trials seeded fall of 2000 at Carbondale, IL and Bowling Green, KY in shade.

Entry	IL3	KY3	Mean
H94-293	7.2 ¹	5.0	6.1
Royce	6.1	4.7	5.4
Unique	5.8	4.9	5.4
Kenblue	6.1	4.0	5.1
Baron	4.0	4.6	4.3
Midnight	3.1	4.9	4.0
Everest	2.0	5.1	3.5
LSD (0.05)	1.7	1.1	0.9

¹9 = ideal

Table 12. 2002 mean turf quality ratings for entries in Kentucky bluegrass national turf trials seeded fall of 2000 at Carbondale, IL and Bowling Green, KY in shade.

Entry	IL3	KY3	Mean
Brilliant	7.3 ¹	5.1	6.2
Midnight	5.8	5.9	5.9
Royce	6.4	5.0	5.7
Unique	6.1	5.2	5.6
Kenblue	6.4	4.1	5.2
Baron	5.6	4.5	5.0
SRX QG245	3.8	3.8	3.8
LSD (0.05)	1.5	0.7	0.8

¹9 = ideal

#200300308

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICEEXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S)

Pure Seed Testing, Inc. and Rutgers, The State University
of New Jersey
(on 7/9/2008)2. TEMPORARY DESIGNATION
OR EXPERIMENTAL NUMBER

A98-304

3. VARIETY NAME

Royce

4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)

PO Box 449
Hubbard, OR 97032

5. TELEPHONE (include area code)

503-263-0719

6. FAX (include area code)

503-263-0703

7. PVPO NUMBER

#200300308

8. Does the applicant own all rights to the variety? Mark an "X" in appropriate block. If no, please explain. ☒ YES ☐ NO9. Is the applicant (individual or company) a U.S. national or U.S. based company? If no, give name of country. ☒ YES ☐ NO10. Is the applicant the original owner? ☐ YES ☒ NO If no, please answer one of the following:

a. If original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. national(s)?

☐ YES ☐ NO If no, give name of country

b. If original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?

☒ YES ☐ NO If no, give name of country

11. Additional explanation on ownership. (Trace ownership from original breeder to current owner. Use the reverse for extra space if needed):

The New Jersey Agricultural Experiment Station at Rutgers University is the original breeder of Royce. The NJAES has licensed this variety to Pure Seed Testing, Inc. to purify, reselect and evaluate Royce Kentucky bluegrass. Royce is co-owned by Pure Seed Testing, Inc. and Rutgers, The State University of New Jersey. Pure Seed Testing, Inc. has licensed Royce to Mountain View Seeds to grow, produce, and market the variety throughout the world.

PLEASE NOTE:

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

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